

ABSTRACT

A High performance drum brake assembly design is developed which can substantially increase the brake output torque for a given hydraulic input pressure or reduce the required pipeline pressure to realize the current rated torque. The brake assembly has a new lever (17) pivoted on the leading shoe (19) web with one end resting on the wheel cylinder piston (11) and the other end on the strut assembly (15). This lever touches the piston instead of the leading shoe web and receives input from the pressurized wheel cylinder. The lever rotates about its pivot point (18) and pushes the strut assembly. The trailing shoe (3) receives two inputs, one from the wheel cylinder and the other from the strut assembly. The wheel cylinder input and the strut reaction force together acting on the pivot, results in almost twice the force acting on the leading shoe.